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ABSTRACT

Noting that Acquired Immune Deficiency Syndrome (AIDS) is expected to become the fifth leading cause of death for children ages 1 to 4, this paper provides relevant information on AIDS and the Human Immunodeficiency Virus (HIV) to help educators understand that they can work with children and adults who are HIV positive or who have AIDS. The meanings of the terms HIV and AIDS are discussed, as well as the history of the HIV and AIDS epidemic, with special reference to how the diseases affect children, adolescents, day care centers, and schools. Information is included on how the virus is and is not contracted, and on the fact that HIV positive individuals can be integrated into day care centers and classrooms provided that universal health precautions are taken, precautions that will also prevent the spread of most viral, bacterial, and fungal infections. (MDM)

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AIDS:

What Early Childhood Educators Need to Know

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Speech to be given at the

National Association for the

Education of Young Children

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This paper is presented to give educators relevant information on AIDS and to help them understand that they can work with children and/or adults who are HIV positive or who have been clinically diagnosed as having AIDS.

The meanings of the terms HIV and AIDS are explained as is the etiology of the infection. The identification of the virus in 1981 as an infection indigenous to the homosexual and bisexual populations and the subsequent spread of the virus to the heterosexual population, particularly women and children, is discussed.

Information is included on how the virus is contracted with emphasis on how it is not transmitted and on the fact that HIV positive individuals can be integrated into the classroom or child care setting provided that universal health precautions are taken--precautions that will also prevent the spread of most viral, bacterial and fungal infections.

AIDS - the name is an acronym for Acquired Immune Deficiency Syndrome. (A syndrome is a collection of symptoms.) AIDS is the suppression of the body's normal ability to fight diseases. It is the final stage of an infection caused by a virus called the Human Immunodeficiency Virus or HIV infection. AIDS is not a disease; it is a whole spectrum of infections. The infections are considered to be progressive and it is believed that almost everyone who becomes infected will eventually move to the final stage, which is what is called AIDS. Some doctors claim that more than 50% of people who are HIV positive will have full-blown AIDS within 10 to 12 years.

People with Human Immune Deficiency Virus or HIV can become infected with diseases that are all around us, diseases that may not be a threat to people with normal immune systems, but can be deadly to someone who has the AIDS virus. The infections, cancers and malignancies are known as "indicator diseases" for AIDS. People don't die of AIDS; they die of the diseases that take advantage of the weakened immune system.

When the first cases of AIDS were identified in the United States in 1981, the virus was considered to be a problem of the homosexual community and the majority of Americans who have come down with full-blown AIDS

since then have, indeed, been male homosexuals and bisexuals. However, AIDS is not just a disease of homosexual and bisexual men. The virus has crossed over into the general population and the fastest rate of growth of AIDS-virus carriers is in the heterosexual population.

Public health officials predict that by the year 2000, ninety percent of all AIDS cases in this country will be transmitted heterosexually. In Central and East Africa where the disease has reached almost epidemic proportions, virtually all of the sexual transmission of the AIDS virus is between heterosexuals, either from male to female or female to male, and half of the people with AIDS are women. Over 5 million people in Africa are AIDS-infected and 1 in every 10 of these people is a child under the age of 5.

In this country, as the virus associated with AIDS spreads through the heterosexual population, the number of infected women is increasing steadily. According to the Centers for Disease Control, from 1988 to 1989, diagnosed cases of women with AIDS increased by 29 percent compared with an 18 percent increase among men. As of June 30, 1993, statistics show that there are 315,390 clinically diagnosed cases of AIDS. Of this total number about

ten percent or 38,914 are women. Of these women, eighty-five percent are of child-bearing age.

Among the women diagnosed with AIDS, 50 percent contracted the disease through IV drug use; 32 percent through heterosexual contact; 10 percent through transfusions of blood or blood components or through tissue or organ transplants; and 7 percent through an undetermined route of transmission. Before 1985 a small number of women got HIV from artificial insemination when they used semen that was infected with the virus. All licensed sperm banks now screen for HIV.

Even though the virus affects people of all socioeconomic, racial and ethnic groups, racial and ethnic minority women continue to be disproportionately affected nationally, with 52% of cases occurring in Black adult and adolescent women, 20% in Hispanic women and 28% in white women.

As of July, 1990, a total of 7,965 women had died of AIDS in this country. AIDS is now ranked as the fifth leading cause of death among women ages 25 to 44. Since these are the childbearing years, this infection in women has serious implications for children. As of June, 1993, 4,710

cases of AIDS in infants and children younger than 13 years of age had been reported in this country. Eighty-three percent of these children contracted the virus in utero from their infected mothers. It is estimated that as many as 10,000 to 20,000 children in the U.S. may be HIV positive.

The World Health Organization (WHO) currently estimates that a cumulative total of 10-12 million adults and 1 million children worldwide have been infected with the human immunodeficiency virus (HIV) since the beginning of the epidemic. Approximately 1 million persons were newly infected with HIV during the first seven months of 1992. Almost half of these new infections have occurred among women.

The worldwide distribution of adult HIV infections is as follows: sub-Saharan Africa has over 7 million infections; North America and Latin America, including the Caribbean, have over 2 million; South and South-East Asia have over 1 million; Europe, including the countries comprising the former Soviet Union has over 500,000; North Africa and the Middle East have about 75,000; Australasia has over 30,000; and East Asia and the Pacific Islands have approximately 25,000.

Of the 1 million persons newly infected since January 1992, about one-half live in sub-Saharan Africa, about one-quarter live in Asia and the Pacific (the vast majority in South and South-East Asia), and a little more than a tenth live in Latin America and the Caribbean.

As of July 1, 1992, a cumulative global total of over 500,000 adult full-blown AIDS cases had been reported from 168 countries; however, the World Health Organization estimates that when underdiagnosis, under-reporting, and delays in reporting are taken into account, the actual number of adult AIDS cases may be closer to 1.7 million. It is estimated that over half of all adult AIDS cases thus far have occurred in sub-Saharan Africa where the infection has reached almost epidemic proportions. From 1981 to the present time more than half of the men, women and children diagnosed as having AIDS have died.

In 1990 one million babies throughout the world acquired HIV from their infected mothers. Estimates are that by 1995, 2.3 million children will be infected as a result of the virus being transmitted from the mother to the fetus or infant.

One of the great tragedies of AIDS is that it strikes young adults in the prime of life when they are likely to have young children. If one parent dies of AIDS, the other is likely to be infected with the virus and will become increasingly unable to care for the children. When both parents die the children are left in a precarious situation unless there are relatives to care for them. Most communities have few resources to address the needs of the children who are left motherless and by the end of this decade predictions are that there will be 80,000 AIDS orphans in this country - 30,000 of them in New York City. The World Health Organization estimates that in the 1990's more than 10 million children throughout the world will be orphaned because either one or both of the parents have died of AIDS.

The following statistics illustrate how rapidly the infection is spreading in children in the United States:

In 1987, 6 years after the disease was first identified, there were 750 cases of pediatric AIDS among children under age 13 in this country. By 1988 there were 1,108 reported cases in that age group or an increase of 48 percent. By June 1993 there were 4,710 full-blown cases of AIDS in infants and children under age 13. That's more than a 300% increase.

AIDS is the ninth leading cause of death of children ages 1 to 4 and during this decade AIDS is expected to be the fifth leading cause of death in that age group. As of this date, over 50 percent of the children who have been diagnosed as having AIDS have died.

In this country minority children, many of whom face urban poverty and lack of access to adequate health care, comprise the majority of pediatric AIDS cases. Many of these children with congenital AIDS have this disease because of parental behaviors. There is a drug abuse/AIDS connection and drug abuse continues to be a serious problem among the poor and the least educated. There are also environmental links to the spread of the infection. Overcrowding, unsanitary living and working conditions, malnutrition and declining health services are problems of slum areas and poor environmental conditions increase exposure to many different types of infections. Persons with other infections, such as tuberculosis and sexually transmitted diseases, are more receptive to the AIDS virus and those who are HIV positive are more susceptible to tuberculosis and other infectious diseases.

The incidence of pediatric AIDS is escalating in large cities such as New York, Los Angeles, Newark and Miami where there is widespread

poverty in inner-city areas. A study of births in New York City over a 6 month period in 1987 showed that 1 in every 77 babies was born HIV-positive. In one part of New York City, 1 in every 22 women who gave birth had the infection and epidemiologists fear that 50,000 women of reproductive age in that city are HIV positive. Most of the women were exposed to the virus through intravenous drug use or sexual contact with an HIV-infected individual. The 10 U.S. metropolitan areas with the highest rates of AIDS among women are:

- **New York** -- 41.5 cases per 100,000 women
- **West Palm Beach, Fla.** -- 38.1
- **Fort Lauderdale, Fla.** -- 34.1
- **Newark, N.J.** -- 29.6
- **Miami** -- 29.1
- **San Juan, Puerto Rico** -- 26.8
- **Baltimore** -- 18.6
- **Washington** -- 10.2
- **Chicago** -- 8.2
- **Los Angeles** -- 4.5

In my home state of Colorado current screening tests at Denver General Hospital are showing that one in every 900 to 1,000 expectant mothers is testing positive for the AIDS virus.

In Colorado 2,303 people have been diagnosed with full-blown AIDS since the disease was identified in 1981. One hundred and ten of those diagnosed have been women. As of June, 1993, nineteen hundred and seventy-seven AIDS patients have died. There is no breakdown as to how many of those who died in Colorado were women.

According to 1993 statistics there were 315,390 reported cases of AIDS in this country since 1981, and over 100,000 of the AIDS patients, have already died. At the present time estimates are that there are 1.5 million to 3 million carriers of the virus and many of these people don't even know they are carriers. One out of every 4 households in this country has already been touched in some way by AIDS.

Before 1985 when blood banks began using screening procedures that dramatically reduced the danger of AIDS-tainted blood being used in transfusions, some children were infected through transfusions of contaminated blood. In fact, statistics compiled by the Centers for Disease

Control show that 202 children developed AIDS from blood transfusions between June 1, 1981, and June 30, 1992.

(There are about 20,000 people in the country who have been diagnosed as having hemophilia. Before 1985 when the blood supply was cleaned up with improved testing precedures, many of the hemophiliacs received tainted blood components. As of June 1993, there were 3228 confirmed cases of AIDS in the hemophiliac population. Two hundred and two were children under the age of 13. There are 26 infants who have been born to a hemophiliac parent who has AIDS. One hundred and sixty-six people have been diagnosed with AIDS as a result of being sexual partners of the AIDS-infected hemophiliacs.)

At this point in time there is the possibility that some children may become infected through contact with a contaminated needle or as a result of being sexually abused by an HIV-positive perpetrator. However, most of the cases of pediatric AIDS are the result of the transmission of the virus from the infected mother. Over 6,000 HIV infected mothers give birth each year in the United States. Approximately 20-30% of their babies are born HIV infected. Thi accounts for over 1,800 new HIV infected infants each year.

The transmission of the virus from the mother to the infant, is known as perinatal transmission and takes place in the following ways:

1) by the passage of the virus from the mother's body to the developing fetus.

2) by the infant being exposed to infected maternal blood and vaginal fluids during the labor and delivery process, and

3) through the postpartum ingestion of breast milk containing the virus. Small amounts of HIV are sometimes found in the breast

milk of infected mothers. It is not known how likely it is that this small amount of virus could affect the baby. There are only 5 reported cases of babies apparently being infected through breast milk, but there are also many cases of babies of infected mothers being breast-fed without becoming infected. The vast majority of HIV infections in babies are the result of transmission of the virus across the placenta or by exposure of the infant to infected blood during the birthing process.

Health professionals believe that mothers should continue to breast-feed their babies even if they suspect or know they are HIV positive. The HIV antibodies in breast milk may protect the baby from HIV infection and the other antibodies in breast milk certainly protect the infant against the many other infections to which the baby may be exposed. In most developing countries and in poverty-stricken areas, breast-feeding is a crucial element of child survival. A baby's risk of dying of AIDS through breast-feeding must be balanced against its risk of dying of other causes such as diarrhea or malnutrition, if not breast-fed.

Even through AIDS can be parentally transmitted from mother to child, not all pregnant infected mothers transmit the AIDS virus to their infants. The frequency of transmission of the virus to infants is unpredictable. Both symptomatic and asymptomatic mothers have transmitted the virus to their infants.

A number of women who had symptoms of AIDS were studied over a period of several years. In the study group one woman gave birth to four infected babies; another woman gave birth to one infected baby and then had three uninfected children; a third woman gave birth to an infected baby and then to an uninfected baby. Doctors are unable to explain the lack of consistency in the transmission of the virus. There are also problems in testing newborns for the infection because of the antibodies passed on to them by their HIV positive mothers and the fact that some mothers transmit the virus as well as the antibodies to their infants. There have been cases where the infection didn't manifest itself until the children were 14 to 18 months old.

Currently available HIV antibody tests cannot accurately identify perinatally acquired infection in infants younger than 18 months of age.

Maternal HIV antibody passed in utero to the fetus regardless of whether infection is also transmitted may persist for 15 to 18 months after birth. It is also difficult to determine between maternally derived antibodies and infant-derived antibodies. It is estimated that approximately 30% of the infants whose mothers are HIV infected will become infected before, during or soon after birth. As with adults, time from acquisition of infection to observable signs and symptoms varies from 1 month to several years.

The same virus causes AIDS in adults, in infants and in young children by attacking and damaging their immune and central nervous systems. However, the disease progresses differently in children than it does in adults. In adults the symptoms of fully developed AIDS include the presence of opportunistic infections and/or rare cancers. The most common conditions are Pneumocystis carinii pneumonia and Kaposi's sarcoma. (Kaposi's sarcoma is a cancer of the blood vessels that spreads rapidly, creates skin lesions and attacks internal organs.) Eighty percent of those diagnosed as having AIDS have at least one of these diseases. Other disorders that can occur are a leukemia-like cancer, severe diarrhea, lung infections and infections of the central nervous system that can lead to dementia or brain damage.

Among women patients HIV disease may also have additional signs and symptoms. These include amenorrhea, chronic pelvic inflammatory disease, diarrhea, swollen glands, unexplained weight loss, a form of candida or yeast infection and such sexually transmitted diseases as herpes and syphilis. Even before symptoms appear, a pregnant HIV infected-woman can pass the virus on to an unborn child.

A number of adults who test positive for HIV antibodies may not have any obvious symptoms or illnesses at all. Infection with the virus is not AIDS and may not result in symptoms for 5 to 10 years but it is believed that the majority of HIV positive people <u>will</u> develop full-blown AIDS. Early recognition of and treatment of symptoms can delay the onset of full-blown AIDS in many people and good nutrition and good health habits are recommended.

While the prognosis for HIV infection is uncertain, one study has shown that over a ten-year period 80% of HIV infected individuals have developed symptoms of HIV disease with 54% having developed full-blown AIDS. Within 3 years following an AIDS diagnosis the mortality rate has been 90%.

In infants and children the disease is generally characterized by failure to thrive and the appearance of severe bacterial infections. Children get persistent oral thrush (a common fungal infection of the mouth or throat) and chronic or recurrent diarrhea. They also get the Pneumocystis carinii infection that adults get and they are subject to severe ear infections, chronic pneumonia and CMV (cytomegalovirus) pneumonia. They often have enlarged lymph nodes, developmental delays and neurological abnormalities. They also may have a persistent cough and unexplained fevers. Because AIDS affects the immune system they cannot develop antibodies to combat such childhood diseases as chicken pox and polio. Children born infected by the AIDS virus have a 25 percent chance of dying before age one and an 80 percent chance of dying before age five. Many of the drugs that help adult patients have not been effective with pediatric patients.

With the population of HIV-infected children increasing, it is important that caregivers and teachers in day care centers, foster homes and schools be knowledgeable about the disease and knowledgeable about the precautions that should be taken. Some facts that teachers need to know about HIV/AIDS are:

AIDS is spread by having sexual intercourse with an infected person or by sharing needles or syringes with an infected person. Also, women with the virus can pass it on to their babies during pregnancy or during the birth process or when breast-feeding the infants. The virus can also be spread through contaminated blood transfusions and contaminated organ transplants.

Epidemiologists are, at this point in time, fairly certain that the virus is not spread by casual contact and that in schools and day care centers teachers and children cannot get the AIDS virus from:

1. Playing with infected children or adults.
2. Hugging the children.
3. Eating food prepared by someone who is infected with the virus.
4. Closed mouth kissing.
5. Coughing, sneezing or spitting.
6. Swimming together.

Teachers and children cannot get AIDS by using the same dishes and eating utensils, the same toilets and showers, the same furniture, toys and playground equipment. It is highly unlikely that the virus is transmitted

through tears, feces or urine even though the virus has been identified in all body fluids. It has never been proved that the virus is spread by insects.

There are safe school practices that should be used. Teachers and caregivers should have rubber or latex gloves available to use in the classrooms, on the playground and on field trips in case they have to clean up blood and vomit spills. They should be taught on how to remove the gloves and how to dispose of paper towels, cloths and gloves safely. The gloves and all other materials used for cleaning should be discarded in a double plastic bag that is then tightly fastened and placed in a special container that is clearly marked and kept away from children.

Caregivers in infant/toddler child care centers should <u>always</u> wear gloves when changing diapers. Caregivers, wearing rubber or latex gloves, should clean surfaces and mouthed toys with a disinfecting solution of 1 tablespoon of bleach added to 1 quart of water, prepared daily. For blood and vomit spills the solution used should be stronger and should consist of 1 part of bleach to 10 parts of water. The use of disinfectants will also diminish the spread of bacterial illnesses and other viral infections. The caregivers should

set an example of frequent and thorough hand washing and teach young children how to wash their hands.

Children should be taught to inform the teacher or caregiver when a child is bleeding on the playground or has vomited. They should be taught not to touch the blood or vomit.

The Centers for Disease Control and the American Academy of Pediatrics approve of school attendance for HIV-infected school age children who are able to control bowel and bladder functions and do not display aggressive behaviors. For children in day care centers, some epidemiologists have recommended that exclusion might be warranted if the child's physical condition or personal behavior would result in contact by other persons with the child's bodily fluids through uncontrolled drooling, aggressive biting or similar problems such as the presence of exudative or oozing skin lesions.

HIV-infected children who persistently bite others and who have open sores in their mouths that may discharge blood may transmit the virus. However, there have not been any documented cases of HIV transmission from a bite and some physicians have stated that the risk of infection would

probably be greater in reverse; that is, if a non-infected youngster were to bite an HIV-infected youngster.

The number of American teenagers with HIV is increasing each year. Since 1981 nearly 20% of reported AIDS cases have occurred in young men and women ages 20 to 29. Given the length of time from infection with the virus to a diagnosis of full-blown AIDS, it is safe to infer that many of these young adults were infected when they were teenagers.

Infected teenagers are being identified throughout the country from small rural communities to large urban areas. Minors and teenagers are initiating sexual and drug use activities at younger and younger ages, thus exposing themselves to sexually transmitted diseases and HIV infections. Statistics show that by age 19, seventy percent of our teenagers have been involved in sexual activities and they are starting their involvement at younger and younger ages.

In the past decade teenagers have had the highest rate of sexually transmitted diseases such as chlamydia, gonorrhea, syphilis and herpes and now they are becoming infected with the HIV virus in record numbers. There were 12 million new cases of sexually transmitted diseases last year and 10

million of those cases involved young people between the ages of 15 and 19 years of age. Each of these cases is the opportunity for the HIV virus to be transmitted. (One quarter of the American adult population has herpes and one of every 5 Americans needs to be tested for a sexually transmitted disease.)

Teenagers take more risks, especially risks including their sexuality. They are twice as likely as older adults to get the virus heterosexually but because HIV takes 10 years to progress to a clinical diagnosis of AIDS, they do not see the devastation of AIDS in their peers and therefore do not rally behind prevention efforts.

If we wish to save this and future generations of our young people we need to help children develop a strong value system that makes sense to them and decision making skills to keep them safe in a variety of situations. Schools, families and communities have to become involved in the development and implementation of early intervention programs that help young people develop social skills, self-esteem and coping behaviors. Since we do not have a cure for AIDS we have to emphasize prevention and use education as the tool to prevent the further spread of the infection.

In addition to men, women, adolescents and young children being among the populations affected by the virus, we are now becoming aware of the fact that older people are also at risk for HIV and AIDS infections. There is the myth that the elderly are immune from AIDS. That is far from the reality of the situation. Eighteen percent of persons with AIDS are 45 years old and older. AIDS cases in this population category are rising between 8% and 10% annually. Many of our older Americans are at risk because they had blood transfusions before 1985. Many are at risk because they have diabetis and diabetics who are very poor tend to share insulin needles. Many are at risk because they remain sexually active even when they are in their eighties but they're not in the habit of using condoms or discussing sexual histories with their partners.

Even though many scientists are experimenting with different drugs and treatment modalities, there is no totally effective treatment for the infected carrier and no cure for the person with AIDS. While research efforts proceed, our health system continues to be overburdened. With the topic of health costs so evident on the national agenda, it is interesting to note that the annual cost of treating an AIDS patient in this country is $38,300.00 and the lifetime

cost is $102,000.00. The average annual cost of treating a HIV positive individual who has not yet developed AIDS is $10,000.00 In 1991 the total cost of treating persons with HIV and AIDS was 6 billion dollars. By 1994 the cost is expected to reach 10.6 billion dollars.

Average treatment costs differ in other parts of the world. The amount spent on an AIDS patient in Western Europe is about $22,000.00 a year, in Latin America about $2,000.00 a year, and in the sub-Saharan African countries, about $400.00 a year.

We, as teachers, have to have an understanding of AIDS and a knowledge of how it is spread. We have to know how the virus is acquired and we have to know how to work with the men, women and children who are HIV positive or who have AIDS. And most importantly, we have to be involved in prevention programs.

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